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| 10' | Mica schist; quartz, biotite, muscovite | 220' |
| 10 | Mica schist; biotite, quartz, muscovite | 230 |
| 20 | Mica schist; biotite and quartz..... | 250 |
| 15 | Mica schist; biotite, muscovite, quartz..... | 265 |

Few crevices; strata tightly packed; first rock water struck at 120; rose to 28' beneath surface; pumped 5 quarts a stroke, 80 strokes a minute, 6000 gallons an hour; level falls 20' after one hour's pumping.

Water a little hardened by sulphates and some iron.

Artesian Well in Mica Schist, near Radnor, Delaware County, Pa.

Notes by O. C. S. Carter.

Drilled on M. Wheadley's farm, in Chester county, Pa., in the *hydro-mica schist* of the South Valley Hill belt.

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| 30' | Sharp white quartz fragments.....to | 30' |
| 58 | Schist, very micaceous, silver gray, soapy. | 88 |

Water crevices struck at 70 and 85; water rose only 10 feet in the well, and stood at 70 feet below the surface; yield, only 120 gallons per hour; drops 5 feet after pumping five hours.

Feldspar Bed in Laurentian (?) Gneiss.

By Prof. Oscar C. S. Carter.

(Read before the American Philosophical Society, May 1, 1891.)

The feldspar quarry is opened on the east bank of the Schuylkill river, between Lafayette Station and Spring Mill, where the Reading Railroad (Norristown branch) and the Pennsylvania Railroad (Schuylkill Valley division) run side by side under the bluff outcrops of syenite and gneiss supposed to be of Laurentian or Archaic age, bordered on the south by C. E. Hall's Chestnut Hill Mica Schist belt of undetermined age.

A small stream cutting down into the Schuylkill just south of the quarry marks the contact of the mica schist and syenite and gneiss belts. About 100 yards north of the quarry is the granite vein described in Prof. H. D. Roger's *Geology of Pennsylvania*, 1858.

The county road runs between the railroad tracks and the bluff, and the feldspar bed is quarried for 35 feet alongside of the road. The feldspar

is also exposed between the road and the railroad for 10 feet more, making the bed at least 45 feet broad; the highest point of rock exposed is 15 feet above the level of the county road.

The dip of the feldspar bed is northward (40°) beneath the gneiss.

The direction of the feldspar bed does not conform to the strike of the belts of gneiss, but, on the contrary, is transverse, *i. e.*, nearly north and south.

The feldspar is orthoclase, of light pink color, with an occasional streak of white granular quartz running through it. Some of the large masses quarried out contain considerable quartz. Large masses of biotite mica are occasionally met with in quarrying; but the occurrence of biotite is not general through the rock.

The quarry was opened in the summer of 1886, and about 30 tons taken out and sold to the potteries at Trenton, etc. It is the only feldspar quarry in Montgomery county. The quarry in Delaware county is described in the Annual Report of the Geological Survey of Pennsylvania for 1886. A few others, in the States of Delaware, New York, Connecticut, Massachusetts and Maine furnish all the feldspar manufactured into pottery in the United States, the total production from all the quarries, from 1882 to 1887, having been 14,000; 14,100; 10,900; 13,600; 14,900; 10,200 tons, valued respectively at \$70,000; \$71,112; \$55,112; \$68,000; \$74,500; \$56,100. The crude feldspar is valued at the Trenton potteries at about \$5 the long ton; and the pulverized feldspar at \$11; the quartz being carefully separated out.

A Fragment of Objectionable University-Extension Teaching.

By R. Meade Bache.

(Read before the American Philosophical Society, May 15, 1891.)

It need hardly be said, and yet, to obviate the possibility of misinterpretation in outside quarters of that which I am about to remark, it becomes necessary formally to declare that I have no intention to depreciate the cause represented by the well-concerted effort of University-Extension teaching to disseminate knowledge heretofore confined to the comparatively few. I could heartily wish that my theme admitted of no mention save of generalities, but thus treated it would not subserve the interest which I would gladly promote, by being brought home to the